



4

SEQUENCE LISTING

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<120> ANTI-DUAL INTEGRIN ANTIBODIES, COMPOSITIONS, METHODS AND USES

<130> CEN0249

<140> CURRENT APPLICATION NUMBER: US 90/920,267

<141> CURRENT FILING DATE: 2001-08-01

<150> 60/223,363

<151> 2000-08-07

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<170> PatentIn Ver 3.1

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Arg Tyr Thr Met His

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Val Ile Ser Phe Asp Gly Ser Asn Lys Tyr Tyr Val Asp Ser Val Lys Gly

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Ser Arg Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Arg Tyr
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Thr Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Val Ile Ser Phe Asp Gly Ser Asn Lys Tyr Tyr Val Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Glu Asn Thr Leu Tyr
65 70 75 80

Leu Gln Val Asn Ile Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Glu Ala Arg Gly Ser Tyr Ala Phe Asp Ile Trp Gly Gln Gly
100 105 110

Thr Met Val Thr Val Ser Ser
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Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Tyr
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45
 Tyr Asp Ala Ser Asn Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60
 Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80
 Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Arg Ser Asn Trp Pro Pro
 85 90 95
 Phe Thr Phe Gly Pro Gly Thr Lys Val Asp Ile Lys
 100 105

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 Leu Asp Val Asp Ser Pro Ala Glu Tyr Ser Gly Pro Glu Gly Ser Tyr
 35 40 45
 Phe Gly Phe Ala Val Asp Phe Phe Val Pro Ser Ala Ser Ser Arg Met
 50 55 60
 Phe Leu Leu Val Gly Ala Pro Lys Ala Asn Thr Thr Gln Pro Gly Ile
 65 70 75 80
 Val Glu Gly Gly Gln Val Leu Lys Cys Asp Trp Ser Ser Thr Arg Arg
 85 90 95
 Cys Gln Pro Ile Glu Phe Asp Ala Thr Gly Asn Arg Asp Tyr Ala Lys
 100 105 110
 Asp Asp Pro Leu Glu Phe Lys Ser His Gln Trp Phe Gly Ala Ser Val
 115 120 125
 Arg Ser Lys Gln Asp Lys Ile Leu Ala Cys Ala Pro Leu Tyr His Trp
 130 135 140
 Arg Thr Glu Met Lys Gln Glu Arg Glu Pro Val Gly Thr Cys Phe Leu
 145 150 155 160
 Gln Asp Gly Thr Lys Thr Val Glu Tyr Ala Pro Cys Arg Ser Gln Asp
 165 170 175
 Ile Asp Ala Asp Gly Gln Gly Phe Cys Gln Gly Gly Phe Ser Ile Asp
 180 185 190

Phe	Thr	Lys	Ala	Asp	Arg	Val	Leu	Leu	Gly	Gly	Pro	Gly	Ser	Phe	Tyr	195	200	205	
Trp	Gln	Gly	Gln	Leu	Ile	Ser	Asp	Gln	Val	Ala	Glu	Ile	Val	Ser	Lys	210	215	220	
Tyr	Asp	Pro	Asn	Val	Tyr	Ser	Ile	Lys	Tyr	Asn	Asn	Gln	Leu	Ala	Thr	225	230	235	240
Arg	Thr	Ala	Gln	Ala	Ile	Phe	Asp	Asp	Ser	Tyr	Leu	Gly	Tyr	Ser	Val	245	250	255	
Ala	Val	Gly	Asp	Phe	Asn	Gly	Asp	Gly	Ile	Asp	Asp	Phe	Val	Ser	Gly	260	265	270	
Val	Pro	Arg	Ala	Ala	Arg	Thr	Leu	Gly	Met	Val	Tyr	Ile	Tyr	Asp	Gly	275	280	285	
Lys	Asn	Met	Ser	Ser	Leu	Tyr	Asn	Phe	Thr	Gly	Glu	Gln	Met	Ala	Ala	290	295	300	
Tyr	Phe	Gly	Phe	Ser	Val	Ala	Ala	Thr	Asp	Ile	Asn	Gly	Asp	Asp	Tyr	305	310	315	320
Ala	Asp	Val	Phe	Ile	Gly	Ala	Pro	Leu	Phe	Met	Asp	Arg	Gly	Ser	Asp	325	330	335	
Gly	Lys	Leu	Gln	Glu	Val	Gly	Gln	Val	Ser	Val	Ser	Leu	Gln	Arg	Ala	340	345	350	
Ser	Gly	Asp	Phe	Gln	Thr	Thr	Lys	Leu	Asn	Gly	Phe	Glu	Val	Phe	Ala	355	360	365	
Arg	Phe	Gly	Ser	Ala	Ile	Ala	Pro	Leu	Gly	Asp	Leu	Asp	Gln	Asp	Gly	370	375	380	
Phe	Asn	Asp	Ile	Ala	Ile	Ala	Ala	Pro	Tyr	Gly	Gly	Glu	Asp	Lys	Lys	385	390	395	400
Gly	Ile	Val	Tyr	Ile	Phe	Asn	Gly	Arg	Ser	Thr	Gly	Leu	Asn	Ala	Val	405	410	415	
Pro	Ser	Gln	Ile	Leu	Glu	Gly	Gln	Trp	Ala	Ala	Arg	Ser	Met	Pro	Pro	420	425	430	
Ser	Phe	Gly	Tyr	Ser	Met	Lys	Gly	Ala	Thr	Asp	Ile	Asp	Lys	Asn	Gly	435	440	445	
Tyr	Pro	Asp	Leu	Ile	Val	Gly	Ala	Phe	Gly	Val	Asp	Arg	Ala	Ile	Leu	450	455	460	
Tyr	Arg	Ala	Arg	Pro	Val	Ile	Thr	Val	Asn	Ala	Gly	Leu	Glu	Val	Tyr	465	470	475	480
Pro	Ser	Ile	Leu	Asn	Gln	Asp	Asn	Lys	Thr	Cys	Ser	Leu	Pro	Gly	Thr	485	490	495	
Ala	Leu	Lys	Val	Ser	Cys	Phe	Asn	Val	Arg	Phe	Cys	Leu	Lys	Ala	Asp	500	505	510	

Gly	Lys	Gly	Val	Leu	Pro	Arg	Lys	Leu	Asn	Phe	Gln	Val	Glu	Leu	Leu	515	520	525
Leu	Asp	Lys	Leu	Lys	Gln	Lys	Gly	Ala	Ile	Arg	Arg	Ala	Leu	Phe	Leu	530	535	540
Tyr	Ser	Arg	Ser	Pro	Ser	His	Ser	Lys	Asn	Met	Thr	Ile	Ser	Arg	Gly	545	550	555
Gly	Leu	Met	Gln	Cys	Glu	Glu	Leu	Ile	Ala	Tyr	Leu	Arg	Asp	Glu	Ser	565	570	575
Glu	Phe	Arg	Asp	Lys	Leu	Thr	Pro	Ile	Thr	Ile	Phe	Met	Glu	Tyr	Arg	580	585	590
Leu	Asp	Tyr	Arg	Thr	Ala	Ala	Asp	Thr	Thr	Gly	Leu	Gln	Pro	Ile	Leu	595	600	605
Asn	Gln	Phe	Thr	Pro	Ala	Asn	Ile	Ser	Arg	Gln	Ala	His	Ile	Leu	Leu	610	615	620
Asp	Cys	Gly	Glu	Asp	Asn	Val	Cys	Lys	Pro	Lys	Leu	Glu	Val	Ser	Val	625	630	635
Asp	Ser	Asp	Gln	Lys	Lys	Ile	Tyr	Ile	Gly	Asp	Asp	Asn	Pro	Leu	Thr	645	650	655
Leu	Ile	Val	Lys	Ala	Gln	Asn	Gln	Gly	Glu	Gly	Ala	Tyr	Glu	Ala	Glu	660	665	670
Leu	Ile	Val	Ser	Ile	Pro	Leu	Gln	Ala	Asp	Phe	Ile	Gly	Val	Val	Arg	675	680	685
Asn	Asn	Glu	Ala	Leu	Ala	Arg	Leu	Ser	Cys	Ala	Phe	Lys	Thr	Glu	Asn	690	695	700
Gln	Thr	Arg	Gln	Val	Val	Cys	Asp	Leu	Gly	Asn	Pro	Met	Lys	Ala	Gly	705	710	715
Thr	Gln	Leu	Leu	Ala	Gly	Leu	Arg	Phe	Ser	Val	His	Gln	Gln	Ser	Glu	725	730	735
Met	Asp	Thr	Ser	Val	Lys	Phe	Asp	Leu	Gln	Ile	Gln	Ser	Ser	Asn	Leu	740	745	750
Phe	Asp	Lys	Val	Ser	Pro	Val	Val	Ser	His	Lys	Val	Asp	Leu	Ala	Val	755	760	765
Leu	Ala	Ala	Val	Glu	Ile	Arg	Gly	Val	Ser	Ser	Pro	Asp	His	Ile	Phe	770	775	780
Leu	Pro	Ile	Pro	Asn	Trp	Glu	His	Lys	Glu	Asn	Pro	Glu	Thr	Glu	Glu	785	790	795
Asp	Val	Gly	Pro	Val	Val	Gln	His	Ile	Tyr	Glu	Leu	Arg	Asn	Asn	Gly	805	810	815
Pro	Ser	Ser	Phe	Ser	Lys	Ala	Met	Leu	His	Leu	Gln	Trp	Pro	Tyr	Lys			

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Tyr	Asn	Asn	Asn	Thr	Leu	Leu	Tyr	Ile	Leu	His	Tyr	Asp	Ile	Asp	Gly
	835						840					845			
Pro	Met	Asn	Cys	Thr	Ser	Asp	Met	Glu	Ile	Asn	Pro	Leu	Arg	Ile	Lys
	850					855					860				
Ile	Ser	Ser	Leu	Gln	Thr	Thr	Glu	Lys	Asn	Asp	Thr	Val	Ala	Gly	Gln
865					870					875					880
Gly	Glu	Arg	Asp	His	Leu	Ile	Thr	Lys	Arg	Asp	Leu	Ala	Leu	Ser	Glu
				885					890					895	
Gly	Asp	Ile	His	Thr	Leu	Gly	Cys	Gly	Val	Ala	Gln	Cys	Leu	Lys	Ile
			900					905					910		
Val	Cys	Gln	Val	Gly	Arg	Leu	Asp	Arg	Gly	Lys	Ser	Ala	Ile	Leu	Tyr
	915						920					925			
Val	Lys	Ser	Leu	Leu	Trp	Thr	Glu	Thr	Phe	Met	Asn	Lys	Glu	Asn	Gln
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Asn	His	Ser	Tyr	Ser	Leu	Lys	Ser	Ser	Ala	Ser	Phe	Asn	Val	Ile	Glu
945					950					955					960
Phe	Pro	Tyr	Lys	Asn	Leu	Pro	Ile	Glu	Asp	Ile	Thr	Asn	Ser	Thr	Leu
				965					970					975	
Val	Thr	Thr	Asn	Val	Thr	Trp	Gly	Ile	Gln	Pro	Ala	Pro	Met	Pro	Val
			980					985					990		
Pro	Val	Trp	Val	Ile	Ile	Leu	Ala	Val	Leu	Ala	Gly	Leu	Leu	Leu	Leu
			995				1000					1005			
Ala	Val	Leu	Val	Phe	Val	Met	Tyr	Arg	Met	Gly	Phe	Phe	Lys	Arg	Val
	1010					1015					1020				
Arg	Pro	Pro	Gln	Glu	Glu	Gln	Glu	Arg	Glu	Gln	Leu	Gln	Pro	His	Glu
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Asn	Gly	Glu	Gly	Asn	Ser	Glu	Thr								
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			20					25						30	
Thr	Arg	Gly	Val	Ser	Ser	Cys	Gln	Gln	Cys	Leu	Ala	Val	Ser	Pro	Met
			35					40					45		
Cys	Ala	Trp	Cys	Ser	Asp	Glu	Ala	Leu	Pro	Leu	Gly	Ser	Pro	Arg	Cys
		50					55				60				
Asp	Leu	Lys	Glu	Asn	Leu	Leu	Lys	Asp	Asn	Cys	Ala	Pro	Glu	Ser	Ile
65					70					75				80	
Glu	Phe	Pro	Val	Ser	Glu	Ala	Arg	Val	Leu	Glu	Asp	Arg	Pro	Leu	Ser
				85					90					95	
Asp	Lys	Gly	Ser	Gly	Asp	Ser	Ser	Gln	Val	Thr	Gln	Val	Ser	Pro	Gln

100					105					110					
Arg	Ile	Ala	Leu	Arg	Leu	Arg	Pro	Asp	Asp	Ser	Lys	Asn	Phe	Ser	Ile
		115					120					125			
Gln	Val	Arg	Gln	Val	Glu	Asp	Tyr	Pro	Val	Asp	Ile	Tyr	Tyr	Leu	Met
		130					135					140			
Asp	Leu	Ser	Tyr	Ser	Met	Lys	Asp	Asp	Leu	Trp	Ser	Ile	Gln	Asn	Leu
							150					155			160
Gly	Thr	Lys	Leu	Ala	Thr	Gln	Met	Arg	Lys	Leu	Thr	Ser	Asn	Leu	Arg
				165					170					175	
Ile	Gly	Phe	Gly	Ala	Phe	Val	Asp	Lys	Pro	Val	Ser	Pro	Tyr	Met	Tyr
			180					185					190		
Ile	Ser	Pro	Pro	Glu	Ala	Leu	Glu	Asn	Pro	Cys	Tyr	Asp	Met	Lys	Thr
		195					200					205			
Thr	Cys	Leu	Pro	Met	Phe	Gly	Tyr	Lys	His	Val	Leu	Thr	Leu	Thr	Asp
		210					215					220			
Gln	Val	Thr	Arg	Phe	Asn	Glu	Glu	Val	Lys	Lys	Gln	Ser	Val	Ser	Arg
		225					230					235			240
Asn	Arg	Asp	Ala	Pro	Glu	Gly	Gly	Phe	Asp	Ala	Ile	Met	Gln	Ala	Thr
				245					250					255	
Val	Cys	Asp	Glu	Lys	Ile	Gly	Trp	Arg	Asn	Asp	Ala	Ser	His	Leu	Leu
			260					265					270		
Val	Phe	Thr	Thr	Asp	Ala	Lys	Thr	His	Ile	Ala	Leu	Asp	Gly	Arg	Leu
			275				280					285			
Ala	Gly	Ile	Val	Gln	Pro	Asn	Asp	Gly	Gln	Cys	His	Val	Gly	Ser	Asp
		290					295					300			
Asn	His	Tyr	Ser	Ala	Ser	Thr	Thr	Met	Asp	Tyr	Pro	Ser	Leu	Gly	Leu
		305					310					315			320
Met	Thr	Glu	Lys	Leu	Ser	Gln	Lys	Asn	Ile	Asn	Leu	Ile	Phe	Ala	Val
				325					330					335	
Thr	Glu	Asn	Val	Val	Asn	Leu	Tyr	Gln	Asn	Tyr	Ser	Glu	Leu	Ile	Pro
			340					345					350		
Gly	Thr	Thr	Val	Gly	Val	Leu	Ser	Met	Asp	Ser	Ser	Asn	Val	Leu	Gln
			355				360					365			
Leu	Ile	Val	Asp	Ala	Tyr	Gly	Lys	Ile	Arg	Ser	Lys	Val	Glu	Leu	Glu
		370					375					380			
Val	Arg	Asp	Leu	Pro	Glu	Glu	Leu	Ser	Leu	Ser	Phe	Asn	Ala	Thr	Cys
		385					390					395			400
Leu	Asn	Asn	Glu	Val	Ile	Pro	Gly	Leu	Lys	Ser	Cys	Met	Gly	Leu	Lys
			405					410						415	

Ile	Gly	Asp	Thr	Val	Ser	Phe	Ser	Ile	Glu	Ala	Lys	Val	Arg	Gly	Cys	
			420					425					430			
Pro	Gln	Glu	Lys	Glu	Lys	Ser	Phe	Thr	Ile	Lys	Pro	Val	Gly	Phe	Lys	
		435					440					445				
Asp	Ser	Leu	Ile	Val	Gln	Val	Thr	Phe	Asp	Cys	Asp	Cys	Ala	Cys	Gln	
	450					455					460					
Ala	Gln	Ala	Glu	Pro	Asn	Ser	His	Arg	Cys	Asn	Asn	Gly	Asn	Gly	Thr	
465					470					475					480	
Phe	Glu	Cys	Gly	Val	Cys	Arg	Cys	Gly	Pro	Gly	Trp	Leu	Gly	Ser	Gln	
			485					490						495		
Cys	Glu	Cys	Ser	Glu	Glu	Asp	Tyr	Arg	Pro	Ser	Gln	Gln	Asp	Glu	Cys	
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Ser	Pro	Arg	Glu	Gly	Gln	Pro	Val	Cys	Ser	Gln	Arg	Gly	Glu	Cys	Leu	
		515					520					525				
Cys	Gly	Gln	Cys	Val	Cys	His	Ser	Ser	Asp	Phe	Gly	Lys	Ile	Thr	Gly	
	530					535					540					
Lys	Tyr	Cys	Glu	Cys	Asp	Asp	Phe	Ser	Cys	Val	Arg	Tyr	Lys	Gly	Glu	
545					550					555					560	
Met	Cys	Ser	Gly	His	Gly	Gln	Cys	Ser	Cys	Gly	Asp	Cys	Leu	Cys	Asp	
			565					570						575		
Ser	Asp	Trp	Thr	Gly	Tyr	Tyr	Cys	Asn	Cys	Thr	Thr	Arg	Thr	Asp	Thr	
		580						585					590			
Cys	Met	Ser	Ser	Asn	Gly	Leu	Leu	Cys	Ser	Gly	Arg	Gly	Lys	Cys	Glu	
		595					600					605				
Cys	Gly	Ser	Cys	Val	Cys	Ile	Gln	Pro	Gly	Ser	Tyr	Gly	Asp	Thr	Cys	
	610					615					620					
Glu	Lys	Cys	Pro	Thr	Cys	Pro	Asp	Ala	Cys	Thr	Phe	Lys	Lys	Glu	Cys	
625					630					635					640	
Val	Glu	Cys	Lys	Lys	Phe	Asp	Arg	Glu	Pro	Tyr	Met	Thr	Glu	Asn	Thr	
			645					650						655		
Cys	Asn	Arg	Tyr	Cys	Arg	Asp	Glu	Ile	Glu	Ser	Val	Lys	Glu	Leu	Lys	
		660						665					670			
Asp	Thr	Gly	Lys	Asp	Ala	Val	Asn	Cys	Thr	Tyr	Lys	Asn	Glu	Asp	Asp	
		675					680					685				
Cys	Val	Val	Arg	Phe	Gln	Tyr	Tyr	Glu	Asp	Ser	Ser	Gly	Lys	Ser	Ile	
	690					695					700					
Leu	Tyr	Val	Val	Glu	Glu	Pro	Glu	Cys	Pro	Lys	Gly	Pro	Asp	Ile	Leu	
705					710					715					720	
Val	Val	Leu	Leu	Ser	Val	Met	Gly	Ala	Ile	Leu	Leu	Ile	Gly	Leu	Ala	
				725					730					735		

Ala Leu Leu Ile Trp Lys Leu Leu Ile Thr Ile His Asp Arg Lys Glu
740 745 750

Phe Ala Lys Phe Glu Glu Glu Arg Ala Arg Ala Lys Trp Asp Thr Ala
755 760 765

Asn Asn Pro Leu Tyr Lys Glu Ala Thr Ser Thr Phe Thr Asn Ile Thr
770 775 780

Tyr Arg Gly Thr
785

<210> 17

<211> 799

<212> PRT

<213> Homo sapiens

<400> 17

Met Pro Arg Ala Pro Ala Pro Leu Tyr Ala Cys Leu Leu Gly Leu Cys
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Ala Leu Leu Pro Arg Leu Ala Gly Leu Asn Ile Cys Thr Ser Gly Ser
20 25 30

Ala Thr Ser Cys Glu Glu Cys Leu Leu Ile His Pro Lys Cys Ala Trp
35 40 45

Cys Ser Lys Glu Asp Phe Gly Ser Pro Arg Ser Ile Thr Ser Arg Cys
50 55 60

Asp Leu Arg Ala Asn Leu Val Lys Asn Gly Cys Gly Gly Glu Ile Glu
65 70 75 80

Ser Pro Ala Ser Ser Phe His Val Leu Arg Ser Leu Pro Leu Ser Ser
85 90 95

Lys Gly Ser Gly Ser Ala Gly Trp Asp Val Ile Gln Met Thr Pro Gln
100 105 110

Glu Ile Ala Val Asn Leu Arg Pro Gly Asp Lys Thr Thr Phe Gln Leu
115 120 125

Gln Val Arg Gln Val Glu Asp Tyr Pro Val Asp Leu Tyr Tyr Leu Met
130 135 140

Asp Leu Ser Leu Ser Met Lys Asp Asp Leu Asp Asn Ile Arg Ser Leu
145 150 155 160

Gly Thr Lys Leu Ala Glu Glu Met Arg Lys Leu Thr Ser Asn Phe Arg
165 170 175

Leu Gly Phe Gly Ser Phe Val Asp Lys Asp Ile Ser Pro Phe Ser Tyr
180 185 190

Thr Ala Pro Arg Tyr Gln Thr Asn Pro Cys Ile Gly Tyr Lys Leu Phe
195 200 205

Pro Asn Cys Val Pro Ser Phe Gly Phe Arg His Leu Leu Pro Leu Thr

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Asp	Arg	Val	Asp	Ser	Phe	Asn	Glu	Glu	Val	Arg	Lys	Gln	Arg	Val	Ser
225					230					235					240
Arg	Asn	Arg	Asp	Ala	Pro	Glu	Gly	Gly	Phe	Asp	Ala	Val	Leu	Gln	Ala
				245					250					255	
Ala	Val	Cys	Lys	Glu	Lys	Ile	Gly	Trp	Arg	Lys	Asp	Ala	Leu	His	Leu
			260					265					270		
Leu	Val	Phe	Thr	Thr	Asp	Asp	Val	Pro	His	Ile	Ala	Leu	Asp	Gly	Lys
		275					280					285			
Leu	Gly	Gly	Leu	Val	Gln	Pro	His	Asp	Gly	Gln	Cys	His	Leu	Asn	Glu
	290					295					300				
Ala	Asn	Glu	Tyr	Thr	Ala	Ser	Asn	Gln	Met	Asp	Tyr	Pro	Ser	Leu	Ala
305					310					315					320
Leu	Leu	Gly	Glu	Lys	Leu	Ala	Glu	Asn	Asn	Ile	Asn	Leu	Ile	Phe	Ala
				325					330					335	
Val	Thr	Lys	Asn	His	Tyr	Met	Leu	Tyr	Lys	Asn	Phe	Thr	Ala	Leu	Ile
			340					345					350		
Pro	Gly	Thr	Thr	Val	Glu	Ile	Leu	Asp	Gly	Asp	Ser	Lys	Asn	Ile	Ile
			355				360					365			
Gln	Leu	Ile	Ile	Asn	Ala	Tyr	Asn	Ser	Ile	Arg	Ser	Lys	Val	Glu	Leu
	370					375					380				
Ser	Val	Trp	Asp	Gln	Pro	Glu	Asp	Leu	Asn	Leu	Phe	Phe	Thr	Ala	Thr
385					390					395					400
Cys	Gln	Asp	Gly	Val	Ser	Tyr	Pro	Gly	Gln	Arg	Lys	Cys	Glu	Gly	Leu
				405					410					415	
Lys	Ile	Gly	Asp	Thr	Ala	Ser	Phe	Glu	Val	Ser	Leu	Glu	Ala	Arg	Ser
			420					425					430		
Cys	Pro	Ser	Arg	His	Thr	Glu	His	Val	Phe	Ala	Leu	Arg	Pro	Val	Gly
		435					440					445			
Phe	Arg	Asp	Ser	Leu	Glu	Val	Gly	Val	Thr	Tyr	Asn	Cys	Thr	Cys	Gly
	450					455					460				
Cys	Ser	Val	Gly	Leu	Glu	Pro	Asn	Ser	Ala	Arg	Cys	Asn	Gly	Ser	Gly
465						470					475				480
Thr	Tyr	Val	Cys	Gly	Leu	Cys	Glu	Cys	Ser	Pro	Gly	Tyr	Leu	Gly	Thr
				485					490					495	
Arg	Cys	Glu	Cys	Gln	Asp	Gly	Glu	Asn	Gln	Ser	Val	Tyr	Gln	Asn	Leu
			500					505					510		
Cys	Arg	Glu	Ala	Glu	Gly	Lys	Pro	Leu	Cys	Ser	Gly	Arg	Gly	Asp	Cys
		515					520					525			

Ser	Cys	Asn	Gln	Cys	Ser	Cys	Phe	Glu	Ser	Glu	Phe	Gly	Lys	Ile	Tyr		
530							535					540					
Gly	Pro	Phe	Cys	Glu	Cys	Asp	Asn	Phe	Ser	Cys	Ala	Arg	Asn	Lys	Gly		
545					550					555					560		
Val	Leu	Cys	Ser	Gly	His	Gly	Glu	Cys	His	Cys	Gly	Glu	Cys	Lys	Cys		
				565					570					575			
His	Ala	Gly	Tyr	Ile	Gly	Asp	Asn	Cys	Asn	Cys	Ser	Thr	Asp	Ile	Ser		
			580					585					590				
Thr	Cys	Arg	Gly	Arg	Asp	Gly	Gln	Ile	Cys	Ser	Glu	Arg	Gly	His	Cys		
		595					600					605					
Leu	Cys	Gly	Gln	Cys	Gln	Cys	Thr	Glu	Pro	Gly	Ala	Phe	Gly	Glu	Met		
610					615						620						
Cys	Glu	Lys	Cys	Pro	Thr	Cys	Pro	Asp	Ala	Cys	Ser	Thr	Lys	Arg	Asp		
625					630					635					640		
Cys	Val	Glu	Cys	Pro	Leu	Leu	His	Ser	Gly	Lys	Pro	Asp	Asn	Gln	Thr		
				645					650					655			
Cys	His	Ser	Leu	Cys	Arg	Asp	Glu	Val	Ile	Thr	Trp	Val	Asp	Thr	Ile		
			660					665					670				
Val	Lys	Asp	Asp	Gln	Glu	Ala	Val	Leu	Cys	Phe	Tyr	Lys	Thr	Ala	Lys		
		675					680					685					
Asp	Cys	Val	Met	Met	Phe	Thr	Tyr	Val	Glu	Leu	Pro	Ser	Gly	Lys	Ser		
690						695					700						
Asn	Leu	Thr	Val	Leu	Arg	Glu	Pro	Glu	Cys	Gly	Asn	Thr	Pro	Asn	Ala		
705					710					715					720		
Met	Thr	Ile	Leu	Leu	Ala	Val	Val	Gly	Ser	Ile	Leu	Leu	Val	Gly	Leu		
			725					730						735			
Ala	Leu	Leu	Ala	Ile	Trp	Lys	Leu	Leu	Val	Thr	Ile	His	Asp	Arg	Arg		
			740					745					750				
Glu	Phe	Ala	Lys	Phe	Gln	Ser	Glu	Arg	Ser	Arg	Ala	Arg	Tyr	Glu	Met		
		755					760					765					
Ala	Ser	Asn	Pro	Leu	Tyr	Arg	Lys	Pro	Ile	Ser	Thr	His	Thr	Val	Asp		
770						775					780						
Phe	Thr	Phe	Asn	Lys	Phe	Asn	Lys	Ser	Tyr	Asn	Gly	Thr	Val	Asp			
785					790					795							